Feed the Future Country Fact Sheet

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Kansas State University Battles Sorghum's Newest Enemy With Science

Gary Peterson

The sugarcane aphid has spread rapidly across the sorghum-producing states, leaving behind millions of dollars in crop losses. Researchers are working tirelessly to make this destructive pest a thing of the past.

Since 2013, the tiny sugarcane aphid has had sorghum farmers and breeders on edge as the persistent green pest bullies its way from Louisiana to Kansas, destroying sorghum fields along the way.

A known pest in numerous parts of Africa for years, the sugarcane aphid got its first taste of American sorghum in 2013, during which growers lost up to 50 percent of sorghum yields in infested field—losses worth nearly $8 million. The aphid has been progressively expanding its range ever since and is now identified as a pest in all major sorghum-growing areas.

The most promising line of defense against the sugarcane aphid is in the development of resistant sorghum lines. However, breeding for resistance is a slow and painstaking process that can take years. Luckily for U.S. sorghum producers, breeders—in collaboration with international partners and researchers—have been working on this problem for nearly 30 years, long before the aphid began wreaking havoc on American soil.

This isn't the first time long-term research investments have paid off for the sorghum industry. In the 1960s, a similar pest infested U.S. sorghum fields, leaving significant economic losses in their wake. However, thanks to USAID-supported research aimed at improving sorghum and millet production throughout the developing world, scientists developed host plant resistance, which allows the crop to continue to perform and produce even under attack by the pest. The breakthrough prevented an estimated $389 million in economic losses for the United States in 1989 alone (equivalent to nearly $757 million in 2017 dollars).

The Feed the Future Innovation Lab for Sorghum and Millet, led by Kansas State University, continues this work today. The Sorghum and Millet Innovation Lab supported the work of researchers as they conducted countless screenings of thousands of sorghum varieties in search of resistance to pests. Their findings proved to be vital to addressing the needs of today's

sorghum industry, including promising research that could hold the key to building resistance to today's pesky pest problem, the sugarcane aphid.

This kind of groundbreaking research isn't just confined to one Innovation Lab. Feed the Future supports 24 Innovation Labs tasked with using collaborative research to develop and take to scale sustainable technologies that address current and future challenges and the need to feed a growing population with nutritious, safe foods. Together, these Feed the Future Innovation Labs form a network of more than **70 top U.S. colleges and universities** working with developing country partners to pioneer innovation solutions that boost productivity, combat emerging threats, and have untold benefits for farmers and food producers both at home and abroad.

This work supports researchers in the United States and abroad to develop new approaches, tools and technologies that tackle the greatest challenges in agriculture and food security, such as developing improved crop varieties that are drought-tolerant and pest resistant, preserving the natural resource base, and connecting smallholder farmers to markets that help farming families and communities thrive.

Feed the Future-supported research connects American companies, universities, farmers, ranchers, and NGOs to global networks to share our American legacy of agricultural ingenuity. Our investments help offer farmers across the world sustainable solutions while ensuring that we can use the latest discoveries to protect the livelihoods of farmers and ranchers here in the United States. As diseases threatening foreign crops and livestock make their ways to our shores, American farmers and ranchers benefit from the work of Feed the Future researchers who are already finding and deploying new ways to fight them.

Whether it's developing a new sorghum variety resistant to a devastating pest, or helping farmers apply better tools and technologies to their crops, Feed the Future is making a difference for food producers and farming families the world over.